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1	BRS 5	"047289".ap.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/17 16:45			S1	
2	BRS 31	(MRC "T.44") with mask	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 09:59			S2	
3	IS&R 2	("5778092").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:01			S3	
4	IS&R 6	("6324305" or ("5706417") or ("6266068")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:04			S4	
5	IS&R 2	("20010000711").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:06			S5	
6	IS&R 2	("20010000314").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:28			S6	
7	BRS 149	(segment\$5 partition\$3 decompos\$5 classif\$7) with foreground with background with (text character binar\$7 bi\$1level black\$1white black\$1and\$1white mask)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:45			S7	
8	BRS 14	(segment\$5 partition\$3 decompos\$5 classif\$7) with foreground with background with (text character binar\$7 bi\$1level black\$1white black\$1and\$1white mask)) same smooth\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:52			S8	
9	BRS 21	((segment\$5 partition\$3 decompos\$5 classif\$7) with foreground with background with (text character binar\$7 bi\$1level black\$1white black\$1and\$1white mask) with layer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 10:55			S9	
10	IS&R 2	("6334001").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 11:47			S10	

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11	BRS 3	"206487".ap.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/18 11:52			S11	
12	BRS 122	forward adj2 wavelet adj1 transform	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 11:37			S12	
13	BRS 1	S12 with (foreground background mask)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 12:26			S13	
14	BRS 3	S12 same (foreground background mask)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 09:07			S14	
15	BRS 1	(causal adj1 irrelevant adj1 pixel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 09:22			S15	
16	BRS 10	(weighted adj1 Gaussian) with smooth\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 09:29			S17	
17	BRS 12	(weighted adj1 Gaussian) same smooth\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 09:31			S18	
18	BRS 9	(weighted adj1 Gaussian adj1 filter\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 09:31			S19	
19	BRS 97	(forward adj2 wavelet adj1 transform) and @ad<"20020114"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 12:26			S20	
20	BRS 82	(wavelet adj1 transform) with (foreground background mask)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 12:26			S21	

Type	Hits	Search Text	DBs	Time Stamp	Comments	Error Definitio	Error Ref #
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21	BRS 60	S21 and @ad<"20020114"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 16:00			S22
22	BRS 204	((JPEG\$12000 with (foreground background))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 12:39			S23
23	BRS 8	((JPEG\$12000 with (foreground background)) and ((JBIG JBIG1) with mask)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 12:38			S24
24	BRS 17	((JPEG2000 "JPEG 2000") with (foreground background))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 12:39			S25
25	BRS 0	(MRC same (margin with col\$1r with offset))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 15:50			S26
26	BRS 0	(MRC same ((base adj1 colo\$1r) with offset))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 15:55			S27
27	BRS 75	((compress\$3 same ((image picture) with (crop\$4 trim\$4 identif\$7 locat\$3 determin\$5) with (margin border)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 15:57			S28
28	BRS 57	S28 and @ad<"20020114"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/19 16:01			S29
29	BRS 5829	382/164,166,173,224,239,240,248-251,276,282,283,375/240.18,240.19.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/22 13:46			S30

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**1 Framework for the development of an experimental mixed-mode message system**

S. Christodoulakis

July 1984 **Proceedings of the 7th annual international ACM SIGIR conference on Research and development in information retrieval**Full text available: [pdf\(1.16 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

We describe a framework for the development of a mixed-mode message system for an office environment. Messages may be composed of attributes, text, images, and voice. Message retrieval is based on content. We discuss several issues related to the development of such systems. Text retrieval techniques are important for content retrieval in this environment.

**2 Tracking text in mixed-mode documents**

J Patrick Bixler

January 2000 **Proceedings of the ACM conference on Document processing systems**Full text available: [pdf\(611.90 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**3 Automatically extracting highlights for TV Baseball programs**

Yong Rui, Anoop Gupta, Alex Acero

October 2000 **Proceedings of the eighth ACM international conference on Multimedia**Full text available: [pdf\(1.08 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In today's fast-paced world, while the number of channels of television programming available is increasing rapidly, the time available to watch them remains the same or is decreasing. Users desire the capability to watch the programs time-shifted (on-demand) and/or to watch just the highlights to save time. In this paper we explore how to provide for the latter capability, that is the ability to extract highlights automatically, so that viewing time can be reduced.

We focus on the sp ...

**Keywords:** audio, baseball, highlights, summarization, television, video

**4 Data clustering: a review**

A. K. Jain, M. N. Murty, P. J. Flynn  
September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3

Full text available:  pdf(606.24 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

**Keywords:** cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity indices, unsupervised learning

5 **Picture Processing by Computer**

Azriel Rosenfeld

September 1969 **ACM Computing Surveys (CSUR)**, Volume 1 Issue 3

Full text available:  pdf(2.69 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



6 **Reading text from computer screens**

Carol Bergfeld Mills, Linda J. Weldon

December 1987 **ACM Computing Surveys (CSUR)**, Volume 19 Issue 4

Full text available:  pdf(3.33 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)



This paper reviews empirical studies concerning the readability of text from computer screens. The review focuses on the form and physical attributes of complex, realistic displays of text material. Most studies comparing paper and computer screen readability show that screens are less readable than paper. There are many factors that could affect the readability of computer screens. The factors explored in this review are the features of characters, the formatting of the screen, the contrast ...

7 **Document image understanding**

Sargur N. Srihari

November 1999 **Proceedings of 1986 ACM Fall joint computer conference**

Full text available:  pdf(1.38 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



8 **Digital information retrieval**

Chabane Djeraba, marinette Bouet

January 1997 **Proceedings of the sixth international conference on Information and knowledge management**

Full text available:  pdf(1.06 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



9 **On the power of the frame buffer**

Alain Fournier, Donald Fussell

April 1988 **ACM Transactions on Graphics (TOG)**, Volume 7 Issue 2

Full text available:  pdf(1.95 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)



Raster graphics displays are almost always refreshed out of a frame buffer in which a digital representation of the currently visible image is kept. The availability of the frame buffer as a two-dimensional memory array representing the displayable area in a screen coordinate system has motivated the development of algorithms that take advantage of this memory for more than just picture storage. The classic example of such an algorithm is the depth buffer algorithm for determining visible s ...

## 10 Image Models

Narendra Ahuja, B. J. Schachter

December 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 4

Full text available:  pdf(2.99 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



## 11 Special issue on spatial database systems: An introduction to spatial database

systems

Ralf Hartmut Güting

October 1994 **The VLDB Journal — The International Journal on Very Large Data Bases**,

Volume 3 Issue 4

Full text available:  pdf(2.50 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)



We propose a definition of a spatial database system as a database system that offers spatial data types in its data model and query language, and supports spatial data types in its implementation, providing at least spatial indexing and spatial join methods. Spatial database systems offer the underlying database technology for geographic information systems and other applications. We survey data modeling, querying, data structures and algorithms, and system architecture for such systems. The em ...

## 12 Document formatting: Creating reusable well-structured PDF as a sequence of component object graphic (COG) elements

Steven R. Bagley, David F. Brailsford, Matthew R. B. Hardy

November 2003 **Proceedings of the 2003 ACM symposium on Document engineering**

Full text available:  pdf(458.01 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



Portable Document Format (PDF) is a page-oriented, graphically rich format based on PostScript semantics and it is also the format interpreted by the Adobe Acrobat viewers. Although each of the pages in a PDF document is an independent graphic object this property does not necessarily extend to the components (headings, diagrams, paragraphs etc.) within a page. This, in turn, makes the manipulation and extraction of graphic objects on a PDF page into a very difficult and uncertain process. The wo ...

**Keywords:** PDF, form Xobjects, graphic objects, tagged PDF

## 13 Editing and authoring: User-directed analysis of scanned images

Steven J. Simske, Jordi Arnabat

November 2003 **Proceedings of the 2003 ACM symposium on Document engineering**

Full text available:  pdf(3.36 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



Digital capture (scanning in all its forms, and digital photography/video recording), in providing virtually free temporary memory of captured information, allows users to "over-gather" information during capture, and then to discard unwanted material later. For cameras and video recorders, such editing largely consists of discarding images or frames in their entirety. For scanners (and high-resolution camera/video), such editing benefits from a preview capability that provides quick and reliabl ...